

CLAIMS

1. A package wrapping machine for wrapping packages, comprising:
  - a wrap station at which packages are wrapped;
  - a film dispensing station for drawing out film over a package at the wrap station;
  - a conveying system for moving packages along a defined path to the wrap station including:
    - a first conveyor along a first portion of the defined path;
    - a second conveyor along a second portion of the defined path, the first conveyor having an output end which feeds to an input end of the second conveyor for feeding a package traveling along the first conveyor to the second conveyor;
    - at least one sensor for determining a lateral position of a package moving along the first conveyor;
    - at least one actuator for controlling a relative lateral position of the output end of the first conveyor to the input end of the second conveyor;
    - a controller for receiving signals from the sensor and for controlling the actuator, wherein, for a given package moving along the first conveyor, and based upon signals received from the sensor, the controller effects movement of the actuator to define a relative position between the output end of the first conveyor and the input end of the second conveyor to place the given package in a desired lateral position on the second conveyor.
2. The machine of claim 1 wherein the actuator is associated with at least the output end of the first conveyor.
3. The machine of claim 1 wherein the actuator is associated with at least the input end of the second conveyor.
4. The machine of claim 1 wherein the sensor comprises an array of sensors.
5. The machine of claim 4 wherein the array of sensors is comprised of an array of optical sensors extending laterally relative to a conveying direction of the first conveyor.

6. The machine of claim 4 wherein the array of sensors is comprised of an array of mechanical sensors that are triggered by contact with the package.
7. The machine of claim 1 wherein the desired lateral position is a centered lateral position on the second conveyor.
8. The machine of claim 7 wherein positioning of the given package at the centered lateral position on the second conveyor results in centering of the given package relative to a film dispensing axis when conveyed to the wrap station.
9. The machine of claim 1 wherein the film dispensing station is above the wrap station.
10. The machine of claim 1 wherein a section of the wrap station is vertically movable.
11. The machine of claim 1 wherein the actuator is associated with both an input end and the output end of the first conveyor.
12. A package wrapping machine for wrapping packages, comprising:
  - a wrap station at which packages are wrapped;
  - a film dispensing station for drawing out film over a package at the wrap station;
  - a conveying system for moving packages along a path to the wrap station, the conveying system being selectively adjustable for varying a lateral position of a package traveling along the path;
  - at least one sensor for determining lateral position of packages;
  - a controller for receiving signals from the sensor and for controlling adjustment of the conveying system, wherein, for a given package moving along the path, and based upon signals received from the sensor, the controller effects adjustment of the conveying system to establish a desired lateral position of the given package when the given package reaches the wrap station.

13. The machine of claim 12 wherein the conveying system comprises first and second conveyors and at least one actuator configured to vary a relative lateral position between the first and second conveyors.

14. The machine of claim 12 wherein the conveying system comprises a conveyor including a first section, a second section pivotally coupled to the first section, and a third section pivotally coupled to the second section, and at least one actuator connected for lateral movement of at least one section.

15. The machine of claim 12 wherein the conveying system is formed by only a single conveyor.

16. In a food product wrapping machine, a method for conveying a package to a wrap station of the machine, comprising the steps of:

providing a conveying system for moving the package to the wrap station, the conveying system being selectively adjustable for varying a lateral position of a package traveling along the conveying system;

sensing a lateral position of the package;

comparing the sensed lateral position of the package with a desired lateral position of the package;

based upon the comparison, adjusting the conveying system to place the package in the desired lateral position.

17. The method of claim 16 wherein the desired lateral position is a centered position at the wrap station.

18. A package wrapping machine, comprising:

an infeed station;

a wrap station;

a conveying system configured to move the packages along a path from the infeed station to the wrap station, at least a portion of the conveying system being selectively adjustable laterally to controllably vary a lateral position of at least certain of the packages traveling along the path;

a sensor configured to detect a lateral position of packages; and

a controller configured to receive signals from the sensor and to control the selective lateral adjustment of the conveying system to position at least certain of the packages in a desired position when they reach the wrap station.

19. The machine of claim 18 wherein the conveying system comprises at least two conveyors and the desired position is established by centering the package on one of the conveyors.

20. The machine of claim 18 wherein the conveying system comprises first and second conveyors that are selectively adjustable with respect to each other.

21. The machine of claim 18 wherein the conveying system comprises a conveyor having a first section, a second section pivotally coupled to the first section, and a third section pivotally coupled to the second section.

22. The machine of claim 18 wherein the conveying system comprises a single substantially horizontal conveyor.

23. The machine of claim 18 wherein the conveying system comprises an elevator that is laterally adjustable relative to a substantially horizontal conveyor.

24. The machine of claim 18 wherein the conveying system comprises a conveyor roller positioned on a guide rod for lateral movement therealong.